

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Montana Boat Builders

Montana Manufacturing Extension Center

New Tools Help Steer Montana Boatbuilders' Course

Client Profile:

Montana Boatbuilders, Inc. crafts high-end driftboats. The company is located near Livingston, Montana, in the heart of river fly fishing territory. Founded in a garage in northwestern Montana in 1997, Montana Boatbuilders moved to a facility in Livingston in 1998. In addition to crafting custom driftboats, the company also produces boat kits for hobby builders, performs repairs on traditional and fiberglass boats, and even offers complete restructuring. Montana Boatbuilders has four employees.

Situation:

Montana Boatbuilders first carved its niche in high-end drift boats with a hybrid construction composite that makes a traditional wooden boat stronger, lighter weight, and require less maintenance. The technique combines marine-grade plywood with Kevlar-sheathed polypropylene-honeycomb material (among other marine and aerospace technologies). A number of coating techniques and finishes go into completing a boat with durability and lasting beauty. The company produces only 12-15 customized units per year.

However, with the addition of kits and a growing number of employees, the owners began to feel the need for a more efficient operation. The custom work involves 300 to 400 steps in a process that takes from four to six months; Montana Boatbuilders needed its boat kit line to go into production mode virtually overnight. The company needed information on how long processes took, what quantities of material were being used, and tools. It turned to the Montana Manufacturing Extension Center (MMEC), a NIST MEP network affiliate, and University Technical Assistance Program (UTAP) for help.

Solution:

MMEC advised Montana Boatbuilders to enroll in its Lean 101 class to learn the basic concepts and techniques of lean manufacturing. Meanwhile, MMEC/UTAP took on the monumental task of evaluating the company's processes, from milling raw wood and making finished pieces to composite fiberglass lay-up and coating and finishing work.

UTAP divided tasks into subassembly groupings and standardized information to facilitate tracking time requirements at each step. The team built a management tool based on database and spreadsheet technology that allows Montana Boatbuilders to further track information and compare between different products. To augment the tool, MMEC documented standardized work instructions, allowing tasks to be completed in a more efficient sequence and help newer employees learn the tool quickly.

MMEC/UTAP also prepared a bill of materials tool, based on each task in 10 subassemblies. It tallies direct materials costs for each step. After completing MMEC's Lean 101 workshop, Montana implemented the strategies of 5S workplace organization (Sort, Set in Order, Shine, Standardize, Sustain) at the plant to create a cleaner, safer, more efficient workspace.

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Results:

- * Developed a set of tools used to realize time and cost efficiencies.
- * Simplified custom billing process.
- * Verified price point to benchmark other products.
- * Reduced labor hours by 25 percent per boat.
- * Implemented a pull/kanban system to reduce inventory and associated costs.

Testimonial:

"The Montana Manufacturing Extension Center and the University Technical Assistance Program [were] the picture of professionalism and saved us thousands of dollars with the in-depth documents that we use everyday."

Jason Cajune, President